

Appl. No.: 10/601,063

Attorney Docket No.:GP-302694

I. Listing of Claims

1. (Previously presented) A method of controlling traction in a vehicle having at least one non-driven wheel speed sensor, the method comprising:

detecting at least one of actual vehicle acceleration and a wheel speed difference;

comparing said at least one of said actual vehicle acceleration and said wheel speed difference to at least one of a predetermined vehicle acceleration and a predetermined wheel speed difference to detect vehicle wheel slip; and

reducing wheel torque in response to said detected wheel slip based upon vehicle acceleration using a least squares approach or a wheel speed difference; said method further comprising:

comparing a non-driven wheel speed to a threshold non-driven wheel speed value and trans throttle value to a threshold throttle value to obtain a comparison result; and

selecting a wheel slip detection method based on said comparison result.

2. (Original) The method of claim 1 wherein said comparing step further includes:

detecting a wheel speed acceleration; and

comparing said wheel speed acceleration to a predetermined wheel speed acceleration to detect wheel slip.

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3. (Cancelled)

4. (Previously presented) A method of controlling traction in a vehicle having at least one non-driven wheel speed sensor, the method comprising:

detecting at least one of actual vehicle acceleration and a wheel speed difference;

comparing said at least one of said actual vehicle acceleration and said wheel speed difference to at least one of a predetermined vehicle acceleration and a predetermined wheel speed difference to detect vehicle wheel slip; and

reducing wheel torque in response to said detected wheel slip based upon vehicle acceleration using a least squares approach or a wheel speed difference; wherein said step of reducing wheel torque comprises accessing a table of torque reduction values based on input pulley speed and at least one of an acceleration error and a wheel speed difference.

5. (Original) The method of claim 1 further comprising:

specifying a transmission speed ratio based on a current vehicle speed; and

providing a line pressure in the transmission based on the specified speed ratio.

6. (Previously presented) A method of controlling traction in a vehicle having at least one non-driven wheel speed sensor, the method comprising:

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detecting at least one of actual vehicle acceleration and a wheel speed difference;

comparing said at least one of said actual vehicle acceleration and said wheel speed difference to at least one of a predetermined vehicle acceleration and a predetermined wheel speed difference to detect vehicle wheel slip; and

reducing wheel torque in response to said detected wheel slip based upon vehicle acceleration using a least squares approach or a wheel speed difference; said method further comprising:

determining a first torque reduction amount based on at least one of acceleration error and input pulley speed;

determining a second torque reduction amount based on at least one of input pulley speed and speed difference between driven and non-driven wheels; and

reducing wheel torque using a lesser of the reduction amounts.

7. (Original) A method of controlling traction in a vehicle having at least one non-driven wheel speed sensor, the method comprising:

detecting a non-driven wheel speed and a trans throttle position;

comparing said non-driven wheel speed and said trans throttle position to a predetermined non-driven wheel speed and a predetermined trans throttle position; and

selecting one of a plurality of wheel slip detection methods based on said comparing step.

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8. (Original) The method of claim 7 further comprising performing said plurality of wheel slip detection methods.

9. (Original) The method of claim 7 wherein a first wheel slip detection method detects a speed difference of driven and non-driven wheels and compares said speed difference of driven and non-driven wheels to a predetermined difference, and wherein a second wheel slip detection method detects vehicle acceleration and compares said vehicle acceleration to a predetermined vehicle acceleration.

10. (Original) The method of claim 9 wherein comparing said speed difference further includes:

detecting a driven wheel speed acceleration; and

comparing said driven wheel speed acceleration to a predetermined driven wheel speed acceleration.

11. (Original) The method of claim 7, further comprising applying a torque reduction to a wheel based on said selected wheel slip detection method.

12. (Original) The method of claim 7 further comprising reducing a wheel torque based on a result of the selected wheel slip detection method.

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13. (Original) The method of claim 12 wherein reducing a wheel torque comprises using an input pulley speed and a speed difference between driven and non-driven wheels to define a torque reduction.

14. (Original) The method of claim 12 wherein reducing a wheel torque comprises using an acceleration error and an input pulley speed to define a torque reduction.

15-20. (Cancelled)

21. (Previously presented) A method of controlling traction in a vehicle having at least one non-driven wheel speed sensor, the method comprising:

detecting at least one of actual vehicle acceleration and a wheel speed difference;

generating a first torque request to a vehicle controller based on an acceleration based slip determined using a least squares approximation;

generating a second torque request to a vehicle controller based on a wheel speed difference slip; and

varying wheel torque using the lowest value of either said first torque request or said second torque request.

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21. (Previously presented) The method of claim 21 wherein varying the wheel torque comprises reducing the wheel torque.

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